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ABSTRACT

Neither vocational education programs nor the presence of nontraditional students had any significant impact on students' attitudes toward sex roles in the work world, according to a study of 1215 students in vocational programs at Wisconsin Indianhead Technical Institute (WITI) at Rice Lake. Most of the 840 male and 375 female students surveyed with the Youth Employment Questionnaire were enrolled in traditional, sex stereotypic programs. Of the few students enrolled in nontraditional programs, more females than males were considered "nontraditional students" (i.e., in programs usually chosen only by the opposite sex). The data showed that a majority of the students sampled held traditional attitudes toward sex roles in the work world, and their attitudes changed little during the three years of the study. The study also revealed that females in nontraditional programs were the least sex biased, and female scores on the survey typically were more unbiased than male scores. The study also validated the use of the survey instrument which is designed to measure stereotypes people have in relation to various jobs and worker traits. Several recommendations were made: (1) assess vocational educators' attitudes; (2) use unbiased classroom materials and provide inservice training; (3) try to reduce sex role stereotypes in early public school education; and (4) support nontraditional students. The survey instrument and a list of programs enrolling survey participants are appended. (KC)

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Conducted by Patricia J. Gilbert

Center for Vocational, Technical and
Adult Education

University of Wisconsin-Stout

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ASSESSING IMPACTS OF VOCATIONAL EDUCATION ON SEX ROLE STEREOTYPING AND BIAS

CE 026 795

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Chapter I

Summary and Purpose

Summary

The purpose of this study was to identify the impacts of regular vocational education programs and nontraditional students on students in vocational and technical courses. In addition, this research also provided information on the validity and reliability of the Youth Employment Questionnaire developed by the Center for Vocational, Technical and Adult Education (CVTAE). A baseline of data on the sex role stereotypes and biases of students in the Vocational, Technical and Adult Education (VTAE) district of WITI - Rice Lake was also established.

The population of this study was students enrolled in a Vocational, Technical and Adult Education (VTAE) program in Wisconsin. The sample for this three year study consisted of 1,215 students enrolled in vocational programs from WITI - Rice Lake of which 375 were female and 840 were male.

The instrument used in this study was the Youth Employment Questionnaire (Form 713). It was designed to measure stereotypes people have in relation to various jobs and worker traits.

The results of this study revealed that a majority of students who attended WITI - Rice Lake were enrolled in traditional, sex stereotypic programs. Few students were enrolled in nontraditional programs, and of those, more females than males were considered "nontraditional students". During the three years the study was conducted, a total of 44 females were at some point enrolled in a nontraditional program. In comparison, a total of 12 males were enrolled in a nontraditional program. It also

appeared from the data that a majority of students sampled in this study held a traditional attitude toward sex roles in the work world. Most of the program total means reflected a traditional bias. The data also suggested that the regular vocational education programs had little if any impact on changing students perceptions of sex roles and biases in careers. Nontraditional students' as well as traditional students' attitudes toward sex role stereotyping remained fairly constant during the time they were enrolled at WITI - Rice Lake. Neither females nor males attitudes changed significantly as a result of having nontraditional students enrolled in the program.

It was interesting to note the high mean scores for females in nontraditional programs. This revealed that many females in nontraditional programs had unbiased attitudes toward sex roles and careers. This classification of students had the highest scores compared to other classifications of students surveyed. Female students scores typically were higher than those for males - even when they were enrolled in the same program. The women surveyed held the most unbiased attitude toward sex role stereotyping as it relates to the work world. Most students enrolled in regular vocational education programs at WITI - Rice Lake exhibited a traditional bias toward sex stereotyping and generally the female scores were more unbiased than were the male scores. Many females in traditional as well as nontraditional programs held an unbiased attitude toward sex role stereotyping.

The results of this study indicated that most students enrolled at WITI - Rice Lake held a traditional bias toward sex role stereotyping and careers.

Statement of the Problem

Title II of the Education Amendments of 1976 required that sex stereotyping, sex bias and sex discrimination be eliminated from all vocational education programs. Title II further requires that each state implement policies and procedures to assure equal access to all vocational education programs for both women and men. The 1977 Vocational Education Amendments mandated the reduction of sex role stereotyping and sex bias in vocational education. Specific setasides were identified in vocational education funding for this purpose.

To identify sex role stereotyping and sex bias in vocational education, it is important that the VTAE system in Wisconsin be able to document the impacts of various projects, approaches, experiences and programs on its students. Since this is a relatively new and evolving area, there exists a need to develop more and better instrumentation to measure the impacts of these activities. There is also a need to assess the impacts of vocational programs on sex role stereotyping and bias.

The problem of this study was to identify the impacts of regular vocational education programs and nontraditional students on students in vocational and technical programs. In addition, this research provided information on the validity and reliability of an instrument developed by the Center for Vocational, Technical and Adult Education.

Objectives

Five specific objectives provided the direction for this study. The objectives were to:

1. Identify the impacts of regular vocational education programs on students enrolled in vocational and technical programs in a VTAE district.

Objectives (cont'd)

2. Isolate the impacts on traditional students of having nontraditional students enrolled in a vocational program.

3. Establish a baseline of data on the sex role stereotypes and biases of VTAE students in a selected vocational-technical district.

4. Refine the sex role stereotyping/bias instrument.

5. Determine the usefulness of the micro- and macro-level data from the sex role stereotyping/bias instrument in curriculum and instructional decisions.

Rationale

Early Sex-Role Development

Sex-role stereotypes about men and women abound in our society. The recent controversy over the rights of women have caused the blatant myths about the inadequacy of women for jobs and careers to be reexamined. But the subtle stereotypes have not vanished; they have gone underground. It is these undertones which are part of the socialization process and ingrained in children's minds.

Most children learn their gender roles primarily by role-taking within the family. Children adopt the role of the same-sex parent, and in so doing, learn the "proper" attitudes, values, behaviors and goals associated with their sex status. They learn the rights, obligations, and prestige accompanying their sex status. Gradually, children internalize (meaning to accept the norms of the group as part of one's self) their gender roles until the attributes come to seem the only possible ways to feel and behave. Jerome Kagan (cited in Duberman, 1976) has demonstrated the culture definitions of masculinity and feminity are internalized by children as young as three years of age. Children of this age can tell us that daddies should be aggressive, big and strong; mommies should be little, pretty and cuddly. They understand that little girls are expected to be

more conforming and dependent than little boys. Thus, we culturally define what is masculine and what is feminine. These definitions are taught to children, and gradually the definintions become real and have real consequences. Boys are stereotypically defined as "strong" so they have to do things to "prove" they are strong. Girls are stereotypically defined as "dependent," so they act and feel dependent. It becomes a self-fulfilling prophecy. Youngsters observe and role-take with adults and finally internalize their gender role to the point where girls "instinctively" love their dolls and boys "naturally" enjoy playing with trucks.

Kohlberg (1975) believes that by the preschool years, children not only know which sex they are, but also the behavior patterns, play preferences and psychological characteristcs expected of them. By age six or seven, children can present clear sex-role definitions. The interests, activities, and attitudes of boys and girls diverge dramatically into masculinity and femininity.

REINFORCEMENT OF SEX ROLE STEREOTYPES

Reinforcement of sex stereotypical behavior comes from various sources in society, including parents and the school environment. It is proposed that rather subtle differences in the way that boy and girl infants and young children are treated by their parents may produce substantial and pervasive differences in the ways that mature women and men behave. Duncan (1978) has found that very early in the child's life the parents behave in a sex-differentiated fashion. It has been found repeatedly that from the earliest age, mothers look at and talk to their girl infants more than they do their boy infants, which reflects an important socialization process being taught differently as a result of the child's sex.

As well as differential treatment expressed by parents to girls and boys, parents also serve as strong sex-role models. They often provide explicit instructions on "proper" behavior; little girls are told what is considered nice and ladylike and little boys are told what is expected of big strong men. Parents do this both consciously and unconsciously, by example, proscription, reward and punishment. According to Katz (1977), the family exerts the primary influence on a child's sex-role socialization. There are two ways in which family interaction affects children's sex-role development:

1. Parents reward sex-appropriate behavior and punish or discourage sex-inappropriate behavior.

2. Children more frequently imitate same-sex models.

Research by Goldberg and Lewis (cited in Freeman, 1975) illustrates vividly that cultural assumptions about what is "natural" for a boy or for a girl are so deeply ingrained that parents may treat their children differentially without even being aware of it. Thus, parents encourage and reinforce sex appropriate behavior and little girls and boys respond to parental encouragement and rewards. Smith (cited in Griffin, 1978) found that as children become older, their opinions of males increased while their opinions of females decreased.

Along with parents, the school is also influential in sex-role development. At the elementary level, girls are rewarded for neatness, docility, obedience, passivity and following instructions, both inside and outside of school. Meanwhile, boys are rewarded outside of school for the opposite kinds of behavior, which may result in conflict for the elementary school boy. Tobias (1977) sees the situation resulting in a minimal dissonance for an elementary school girl while in boys, it

may create a greater amount of dissonace. The most direct adult model available in the schools is the classroom teacher. "Feminine" values such as orderliness, self-discipline and conformity are rewarded by the teacher. Consequently, many girls may perform well, while many boys may become frustrated. A boy who succeeds in elementary school becomes "feminized" just as a boy who fails may be one who does so because he retains his masculine self-image of toughness and aggressiveness.

Sex Roles and Occupational Choice

Sex bias and sex-role stereotyping seems to be an important issue in all education, beginning with elementary school and continuing throughout. It is especially crucial at the time one begins to make educational and vocational choices. What one sees, hears and learns about particular occupations greatly influences one's occupational choice. Krefting (1978) found that for many jobs there appear to be normative expectations concerning the appropriate sex of the job holder; that is many jobs are sextyped as either male or female jobs. Such sextyping, it is argued, affects one's vocational choice.

Shinar (cited in Kefting, 1978) speculated that males and females are perceived as having different abilities, or different degrees of the same ability. Jobs sextyped as female are those in which abilities of females is expected while those jobs sextyped as male are those in which abilities of males are expected. Another hypothesis Shinar suggests as to why jobs are sextyped is that sextyping is related to occupations. Certain large classes of jobs may tend to be seen as appropriate for females or males. Jobs which generally involve a great deal of physical activity might be perceived as masculine, while those that involve more passive activity may be perceived as feminine.

Certainly vocational education plays a part in affecting one's chosen occupation. Society and the institution of education may affect one's decision of enrolling in a traditional or nontraditional program. A literature search of behaviors which inhibit or reduce sex bias and sex-role stereotyping conducted by Beach (1977) implies that while much has been said about the negative consequences of sex bias and sex-role stereotyping, comparatively little has been accomplished to produce positive change. In this respect, it is believed that vocational education reflects society's reluctance to alter its sexist structure. While the attitude of many individuals may be nonsexist, society as a whole may be resistant to change. Eversole (1977) has reported that restraints in opening all vocational education programs to both women and men exist. Statistics support the contention that many current vocational education programs are not open to both women and men. Even though 45% of all vocational education teachers in her study were female, and over half of the students in vocational education are female, it still appears to be a male-dominated profession.

Beach (1977) believes that enrollment of females (which could apply to males as well) in traditionally "male programs" or "female programs") has been limited by prevailing sex-role stereotypes. Consequently, reduction of sex bias and sex-role stereotypes is especially important in enrollment procedures. There appear to be several behaviors of vocational educators which serve to inhibit or reduce sex bias and sex-role stereotypes in vocational education. Some of these behaviors include:

1. Informing women and men of nontraditional education and employment opportunities available.

2. Providing encouragement and personal support to those involved in nontraditional programs.

3. Informing women and men of anticipated problems which may accompany their participation in nontraditional programs.

4. Identify sex bias and sex-role stereotyping in information materials used by vocational education institutions.

5. Providing information about sex bias and sex-role stereotyping to vocational educators.

6. Providing specific opportunities for vocational educators to make plans for reducing sex bias and sex-role stereotyping.

In a study by Beach (1977) it was concluded that vocational educator's behavior was significant in inhibiting sex bias and sex-role stereotyping. No information was found which indicated that vocational educators acted through their own initiative to reduce sex bias and sex-role stereotyping. Beach concluded that a majority of vocational educators in her study do not realize the probelm of sex bias and sex-role stereotyping.

Beach (1977) has also suggested some changes to reduce sex bias and sex-role stereotyping in vocational education which include:

1. Recruitment of both females and males in nontraditional courses and programs.

2. Sensitizing vocational educators (administrators, counselors, teachers) and employers to the problem of sex bias and sex-role stereotyping.

3. Revision of existing curriculum materials and addition of sex fair materials to reduce sex bias and sex-role stereotyping.

4. Implementing non-sexist guidance and counseling practices into the vocational education system.

In the past, it was assumed that the educational system was doing a reasonably good job educating both females and males for developing to their fullest potential. However, the passage of the Title IX of the Educational Amendments of 1972 prompted people to take a closer look at the equality of the educational opportunities for both sexes.

Federal grants were given to states to assist them in developing and carrying out programs of vocational education to overcome sex discrimination and sex stereotyping and thereby furnish equal educational opportunities in vocational education to all sexes.

In vocational education as well as society, occupations appear to be linked to sex-roles. There appears to be normative expectations concerning the appropriate sex of the job holder. These expectations are started early in one's socialization and reinforced directly by parents and peers as well as indirectly by society as a whole. Although the laws (P.L. 94-482 and Title IX) are moving toward less discrimination, the attitudes of vocational educators seem influential to students in traditional as well as nontraditional vocational education programs. Students in traditional programs may also receive direct and/or indirect pressure to conform to one's stereotypical occupation. Griffin (1978) sees the need for professional educators to become aware of the stereotypical expectations they often hold for males and females. Educators have a commitment to work toward providing the best education possible for both men and women.

Terminology

sex bias:	Behaviors resulting from the assumption that one sex is superior to the other.
sex stereotyping:	Attributing behaviors, abilities, interests, values, and roles to a person or a group of persons on the basis of their sex.
sex discrimination:	Any action which limits or denies a person or a group of persons opportunities, privileges, roles, or rewards on the basis of their sex.
nontraditional enrollments:	Those enrollments by women in vocational education programs that have traditionally enrolled primarily men and those enrollments by men in vocational education programs that have traditionally enrolled primarily women.

Chapter II

Design, Methods and Procedures

Population

In this study a cross-section of vocational education programs from one VTAE district, Wisconsin Indianhead Technical Institute (WITI) was selected. An attempt was made to reach a representative sample of females and males at the Rice Lake Campus of WITI. In Spring 1978, the Youth Employment Questionnaire - Form 762.A1 (Appendix A) was administered to a total of 312 persons; 103 females and 202 males. In Spring, 1979, the Youth Employment Questionnaire - Form 762.A1 was administered to a total of 193 students enrolled in WITI - Rice Lake; 57 females and 134 males. In Fall, 1979, the Youth Employment Questionnaire - Form 762.A1 was administered to 381 students enrolled in WITI - Rice Lake; with 119 females and 247 males responding. The last Youth Employment Questionnaire - Form 762.A1 was given in Spring, 1980, to 363 students enrolled in WITI - Rice Lake. There were 96 female and 257 male respondents.

Procedures

Data were collected in May, 1978 and 1979 to establish the baseline. In September, 1979, a pre-assessment was conducted to identify the opinions and attitudes of students entering WITI - Rice Lake. During May, 1980, the post-test was administered.

The study consisted of two levels of students. Programs which included nontraditional students were selected for one level in sampling design. Programs without nontraditional students were selected for the second level. Within each level, the programs were randomly selected.

During the years the study was conducted, the surveys were given to George Theis, Student Services Coordinator at WITI - Rice Lake. Dr. Theis then selected programs in which there were nontraditional students enrolled; i.e., a Wood Technics program where there was at least one female enrolled in the program for the first level in the sampling design. Dr. Theis then chose programs such as Welding and Secretarial Science where there were no nontraditional students enrolled. The surveys were administered by the staff to students in their programs. After the surveys were completed, they were mailed to the Center for Vocational, Technical and Adult Education (CVTAE) at the University of Wisconsin-Stout.

Instrumentation

The instrument used in this study was the Youth Employment Questionnaire (Form 762). The Youth Employment Questionnaire was designed to measure the stereotypes people have in relation to various jobs and worker traits. Students completing the instrument were asked to indicate whether each trait was either male/female, neutral, more male, or more female. (Appendix A.) The Youth Employment Questionnaire consists of 46 questions, and five responses are possible on each item. These responses are:

- Male (1)
- More Male than Female (2)
- Either Male or Female (3)
- More Female than Male (4)
- Female (5)

The response number for each choice is indicated in the parentheses after each response. A characteristic or job which is stereotypically viewed as male, such as working with one' hands (Item 5), would receive the same score points as the numbers in the parentheses. In other words,

if the respondent indicated that this statement was more male than female (Choice 2), the individual's total score would be increased by two points. For those items which are stereotypically seen as being more female, such as being good with children (Item 17), the score values are reversed from the response values. In other words, the individuals selecting more "more male than female," Response 2, would have their scores increased by four points.

The scale below provides a guide for interpreting whether the score indicated a traditional bias, reactionary bias, or no bias.

- Traditional bias - Scores up to 120
- Unbiased - Scores from 120 through 156
- Reactionary bias - Scores above 156

Scores below 83 indicate an extreme traditional bias. Scores above 193 indicate an extreme reactionary bias. The minimum score would be 46 and the maximum score would be 230.

The Youth Employment Questionnaire had been used in a prior evaluation. Reliability coefficients then ranged from .75 to .90. Using the Hoyt Reliability formula, reliability coefficients for this study were 0.96 in Spring, 1978; 0.87 in Spring, 1979; 0.88 in Fall, 1979; and ranged from 0.54 to 0.97 in Spring, 1980. No problems were encountered with its use.

During the study, the concurrent validity of the data was examined. Response patterns in the data from 1978 and 1979 was analyzed for programs which were male and female dominated to determine if there were distinct patterns for each type.

Time Schedule

The time schedule for this study consisted of three years and students were surveyed at four different times. These were Spring 1978, Spring 1979, Fall 1979 and Spring 1980. This allowed for pre and post-testing to be done, as well as establishing a baseline for WITI-Rice Lake.

Data Analysis

After each survey period, the surveys were processed and tabulated for analysis at the Center for Vocational and Technical Adult Education (CVTAE). A Likert analysis was done on the surveys and the means for the individual programs were compared with the use of the Student t-test. The resulting summaries were then used by the researcher for this report.

Chapter III

Findings

Introduction

This report is based on the analysis of responses from 1,215 persons; 375 females and 840 males, who were enrolled in a VTAE program at WITI - Rice Lake, between Spring 1978 and Spring 1980.

The findings are presented following the sequence of the outlined objectives.

Survey Results

a. Classification Data

The people in this sample represented a variety of occupational interests. Appendix B lists all programs represented in this survey sample. The majority of programs were male dominated and can be regarded as stereotypically male occupations. At the times the surveys were conducted, all were currently enrolled in a VTAE program.

b. Objective 1: Identify the impacts of regular vocational education programs on students enrolled in vocational and technical programs in a VTAE district.

It appears from the data that a majority of students enrolled in programs at WITI - Rice Lake held a traditional attitude toward sex roles in the world of work (see Table III-1). Most of the total program means reflect a traditional bias. The data also indicate that males in traditional programs have more stereotypic attitudes toward sex roles than any other classification of students surveyed. For example, males

TABLE III-1

Survey Results of Youth Employment Questionnaire

Program	Spring 1978				Spring 1979				Fall 1979				Spring 1980			
	Sex	Mean	SD	N	Sex	Mean	SD	N	Sex	Mean	SD	N	Sex	Mean	SD	N
Account Clerk	T	118.9	14.4	9	T	119.0		9	T	120.7	7.7	16	T	120.1	10.6	15
	F	118.9	14.4	9	F	119.0		9	F	120.7	7.7	15	F	120.1	10.6	13
	M			0	M			0	M				M			
Accounting I	T	116.8	9.7	11	T	112.6	8.3	13	T	118.1	8.4	11	T	115.9	10.6	9
	F	118.9	8.8	8	F	114.4	6.1	8	F	118.5	8.2	9	F	115.4	12.2	7
	M	111.3	11.7	3	M	109.8	11.2	5	M	118.1		2	M	117.5	0.7	2
Accounting III	T	111.5	11.6	23	T				T	118.9	10.0	21	T	117.3	12.4	17
	F	111.3	11.7	16	F				F	119.6	8.9	11	F	121.0	12.5	10
	M	111.9	12.5	7	M				M	117.7	12.6	6	M	109.6	8.7	5
Agriculture Business I	T	120.9	12.9	9	T	118.5	5.0	2	T	109.5	11.3	12	T	110.1	13.2	10
	F	134.3	4.0	3	F	118.5	5.0	2	F	110.5	6.4	2	F	115.0		1
	M	112.8	8.0	5	M			0	M	109.3	12.4	10	M	109.6	13.9	9
Agriculture Business III	T				T				T	118.0	8.5	11	T	121.2	7.8	9
	F				F				F	128.0		1	F			0
	M				M				M	116.9	8.2	9	M	121.2	7.8	9
Arch I	T	117.5	21.1	15	T				T	116.1	12.2	35	T	115.9	9.7	15
	F	127.3	7.2	4	F				F	121.2	10.8	11	F	123.8	8.7	4
	M	113.6	23.8	10	M				M	113.6	12.3	24	M	113.0	8.8	11
Arch III	T	118.1	9.2	7	T				T	117.9		12	T	120.6	14.0	12
	F	134.0		1	F				F			0	F	128.5	8.3	6
	M	115.5	6.5	6	M				M	117.9		12	M	112.7	14.6	6
Auto Body	T	117.0	6.5	13	T	116.2	12.8	13	T	113.1	10.9	20	T	114.9	24.8	10
	F			0	F	131.0		1	F	133.0		1	F			0
	M	117.0	6.5	13	M	114.9	12.5	12	M	113.1	10.9	19	M	114.9	24.8	10
Auto Mechanics I	T	109.0	20.6	12	T	112.9	9.9	21	T				T	111.3	7.5	13
	F			0	F	131.0		1	F				F			0
	M	109.0	20.6	12	M	112.0	9.2	20	M				M	111.3	7.5	13

Program	Spring 1978				Spring 1979				Fall 1979				Spring 1980			
	Sex	Mean	SD	N	Sex	Mean	SD	N	Sex	Mean	SD	N	Sex	Mean	SD	N
Auto Mechanics II	T	107.5	7.6	10	T				T	105.7	10.2	14	T	114.3	9.7	23
	F			0	F				F			0	F			0
	M	107.5	7.6	10	M				M	105.7	10.2	14	M	114.3	9.7	23
Auto Service	T				T				T				T	118.1	11.2	10
	F				F				F				F			0
	M				M				M				M	118.1	11.2	10
		(Fed. Project)														
CATV I	T	115.5	12.3	10	T				T	110.8	11.8	9	T	114.5	14.1	14
	F				F				F			0	F			0
	M	115.5	12.3	8	M				M	110.8	11.8	9	M	114.5	14.1	14
Clerk Typist	T	116.9	5.6	22	T	125.3	10.8	13	T	117.2	9.0	26	T	117.6	10.0	14
	F	116.9	5.6	22	F	125.3	10.8	13	F	117.2	9.0	25	F	117.6	10.0	12
	M			0	M			0	M				M			
Finance I	T	121.1	9.4	8	T	110.3	10.0	4	T	114.9	10.6	10	T	113.5	8.8	8
	F	123.0	11.3	3	F	110.0	17.0	2	F	119.8	3.6	6	F	122.0	1.0	3
	M	120.0	9.3	5	M	110.5	2.9	2	M	105.0	9.3	3	M	108.4	7.0	5
Mach. Tool I	T	109.1	22.6	9	T				T	111.5	11.9	14	T	116.3	15.1	12
	F			0	F				F				F			0
	M	109.1	22.6	9	M				M	111.5	11.9	13	M	116.3	15.1	12
Mach. Tool III	T	110.4	10.6	8	T	117.0	13.2	11	T	108.7	10.1	10	T	108.0	13.7	11
	F			0	F			0	F				F			0
	M	110.4	10.6	8	M	117.0	13.2	11	M	108.7	10.1	9	T	108.0	13.7	11
Machine Tool Operator	T				T				T				T			
	F				F				F				F			
	M				M				M				M			
Marketing I	T	114.3	9.8	8	T				T	116.6	10.9	16	T	118.0	13.5	25
	F	121.0	10.0	4	F				F	120.1	6.8	8	F	124.8	8.8	12
	M	107.6	1.3	4	M				M	113.0	13.3	8	M	111.8	14.4	13

Year

Program	Spring 1978				Spring 1979				Fall 1979				Spring 1980			
	Sex	Mean	SD	N	Sex	Mean	SD	N	Sex	Mean	SD	N	Sex	Mean	SD	N
Marketing III	T	115.3	13.0	11	T				T	116.8	8.5	12	T	119.6	5.7	11
	F	111.6	10.7	5	F				F	115.8	6.2	4	F	120.5	3.0	4
	M	118.3	14.9	6	M				M	117.3	9.8	8	M	119.0	7.0	7
Mechanical Design I	T	112.6	16.2	16	T	116.8	13.8	6	T				T	115.6	12.9	11
	F	131.0	14.1	3	F			0	F				F	135.0	2.8	2
	M	110.0	15.1	13	M	116.8	13.8	6	M				M	111.3	9.5	9
Route Sales	T	97.4	8.4	5	T				T	105.8	7.1	13	T	113.4	11.1	10
	F	102.0		1	F				F			0	F			0
	M	96.3	9.3	4	M				M	105.8	7.1	13	M	113.4	11.1	10
Sec Sci I	T	119.7	9.6	15	T	123.1	10.6	14	T	112.7	13.7	13	T	121.1	11.4	22
	F	119.7	9.6	15	F	123.1	10.6	14	F	112.7	13.7	11	F	121.1	11.4	20
	M			0	M			0	M			0	M			0
Sec Sci III	T	122.1	9.7	7	T				T	112.6	15.0	15	T			
	F	122.1	9.7	7	F				F	112.6	15.0	15	F			
	M			0	M				M			0	M			
Tele. Service Repair	T	120.4	12.2	12	T	113.7	11.4	58	T	110.8	11.8	63	T	114.5	10.8	59
	F			0	F	128.0	10.7	6	F				F			
	M	120.4	12.2	12	M	112.0	5.6	51	M	110.8	11.8	61	M	114.5	10.8	59
Tele. Service Repair II	T	108.8	17.1	17	T				T				T			
	F	112.0		1	F				F				F			
	M	108.6	17.7	15	M				M				M			
Welding I	T	114.8	11.5	19	T	117.8	9.8	12	T				T	113.2	9.8	11
	F			0	F	130.0		1	F				F			0
	M	114.8	11.5	19	M	116.7	9.4	11	M				M	113.2	9.8	11
Wood Tech. I	T	122.6	5.2	10	T	119.3	8.7	17	T	111.6	15.0	28	T	116.9	16.3	29
	F			0	F				F				F			
	M	122.6	5.2	10	M	119.3	8.7	16	M	111.6	15.0	27	M	116.9	16.3	24
Wood Tech. II	T	112.5	11.6	26	T				T				T	115.4	10.8	31
	F	138.0		1	F				F				F	135.0	1.4	2
	M	111.4	10.5	23	M				M				M	114.0	9.8	28

in Auto Mechanics II (which is often seen as a stereotypic male program) in Spring 1978 and Fall 1979 had some of the lowest scores on the survey. The mean score for males in Auto Mechanics II for Spring 1978 was 107 and for Fall 1979 was 105. This reveals that most males in the program held stereotyped attitudes toward sex roles. This appears to be a consistent pattern for most males in traditional programs.

A majority of students enrolled in vocational education programs at WITI - Rice Lake did not alter their attitudes significantly toward sex roles from Fall 1979 to Spring 1980 (see Table III-1). In addition, many total program means did not change significantly from Spring, 1978 to Spring, 1980. For many programs the mean for students in particular programs (which represents the students' overall average attitude toward sex role stereotyping and sex bias) dropped or rose two or three points, which is not considered statistically significant. It appears from the data that most students did not change their attitudes toward sex roles drastically.

At WITI - Rice Lake, some in-service sessions for the staff on sex role stereotyping have been conducted, but few specific programs involving students have been implemented to reduce sex role stereotyping and sex bias. If some students' attitudes toward sex roles did change, it may have been a result of nontraditional students enrolled in a program and/or the efforts of individual staff members. Some total program means decreased four or more points from Spring, 1978 to Spring, 1980. These programs include Agriculture Business I, Finance I, Telephone Service Repair and Wood Technics I. Other total program means have increased four or more points. These programs consist of Accounting III, Auto Mechanics II, Machine Tool I, Marketing I, Marketing III and Route Sales.

In discussions with the staff, from WITI - Rice Lake, it appears that some male instructors' attitudes toward sex roles may have become more unbiased partially as a result of their wives' changing career decisions. Some instructors wives have developed careers as opposed to jobs, meaning that they do not want to work simply for economic concerns, but for job fulfillment and self satisfaction. This may have affected their husbands' attitudes toward sex roles in the work world; thus the husbands becoming more accepting of women who seek vocational education as an avenue to a career. It could be that some of these instructors are becoming more aware of womens' changing roles and consciously made their students aware of this in the classroom.

It would appear that the regular vocational education programs had little if any impact on changing students perceptions of sex roles and biases in careers.

c. Objective 2: Isolate the impacts on traditional students of having nontraditional students enrolled in a vocational program.

Generally, students' attitudes toward sex role stereotyping and sex bias in a one sex dominated program did not change considerably. The total program mean scores for those students in nontraditional programs revealed that most females' and males' attitudes toward sex roles remained fairly constant from Fall 1979 to Spring 1980 (see Table III-1). This is consistent with the literature presented on sex roles; one's attitude toward sex roles usually does not alter much from when established. Appendixes B, C, D, and E list all the programs surveyed, female dominated, male dominated and mixed sex programs respectively.

In Accounting I, which was a female dominated program, the mean for females dropped three points from 118 in Fall 1979 to 115 in Spring 1980, which suggests that some females attitudes toward sex roles and sex bias became somewhat more traditionally biased. In Accounting III which was also a female dominated program, the mean for females rose two points from 119 in Fall 1979 to 121 in Spring 1980. This may mean that some females' attitudes toward sex roles became more unbiased as a result of having nontraditional students (males) enrolled in their program. The other total program means with nontraditional students enrolled either remained the same or decreased or increased by one point.

Overall, both females and males attitudes toward sex roles did not change significantly as a result of having nontraditional students enrolled in the program.

As seen from Figures III-1, III-3, III-4, and III-6, the female means in male dominated programs are exceptionally high, most of the scores were between 125 and 130.

In Figure III-1, the female mean scores in male dominated programs ranged from 102 to 138. It is difficult to explain why the female mean score for the Route Sales program was so low.

Figures III-2, III-5, and III-7 display the male means in female dominated programs for Spring, 1978 and Fall, 1979. All means fall in the range classified by a traditional bias, a score of 120 or below indicating a traditional attitude.

Figure III-3 exhibits the female means in male dominated programs for Spring 1979. All means are above 120, indicating that these females in

nontraditional programs held an unbiased view of sex roles and jobs. The scores ranged from 128-131, and all the programs listed in this figure tended to be stereotyped as masculine, manual labor type programs.

Figure III-4 displays the female means in male dominated programs for Fall, 1979. There appears to be varied mean scores for different programs, indicating a wide range; from 110-133. Again, a majority of the students' program mean scores in this figure fall well into the unbiased category, meaning that many, if not all females in these programs view sex roles nonstereotypically.

The male mean scores are displayed in Figure III-5 for Fall, 1979. All means are below 120, indicating a traditional bias for males in non-traditional programs.

The female mean scores in male dominated programs for Spring, 1980 are presented in Figure III-6. It appears to be a consistent pattern for the female mean score in male dominated programs to be well above 120 (the unbiased range). Again in this figure, a majority of mean scores indicate that females in these male dominated programs scored higher than any other classification surveyed and thus most females tend to view sex roles without the preoccupation of traditional stereotypes. The scores for female means in male dominated programs in Spring, 1980 range from 115 to 135, with two extreme scores in Mechanical Design (135) and Wood Technics II (135).

Figure III-7 displays the means in female dominated programs in Spring, 1980. Both mean scores, Accounting I, 117 and Accounting III, 109, fall into the range classified by a traditional bias.

It is interesting to note that the female mean scores in nontraditional programs are much higher (more unbiased) than are the male mean scores

in nontraditional programs. From the data, it appears that females in nontraditional programs, as opposed to any other classification of students surveyed, possess the most unbiased view of sex roles. This may have been a precondition to making the decision to enroll in a non-traditional program. It might be interesting to assess how students in traditional programs view those nontraditional students in the classroom. Perhaps there are more discussions about sex role stereotypes and sex bias, or possibly the nontraditional student is the focal point of some discussions. At present, none of these details are known, only that female nontraditional students held the highest scores, indicating that they were the most unbiased.

Spring 1978

Female Means in Male Dominated Programs

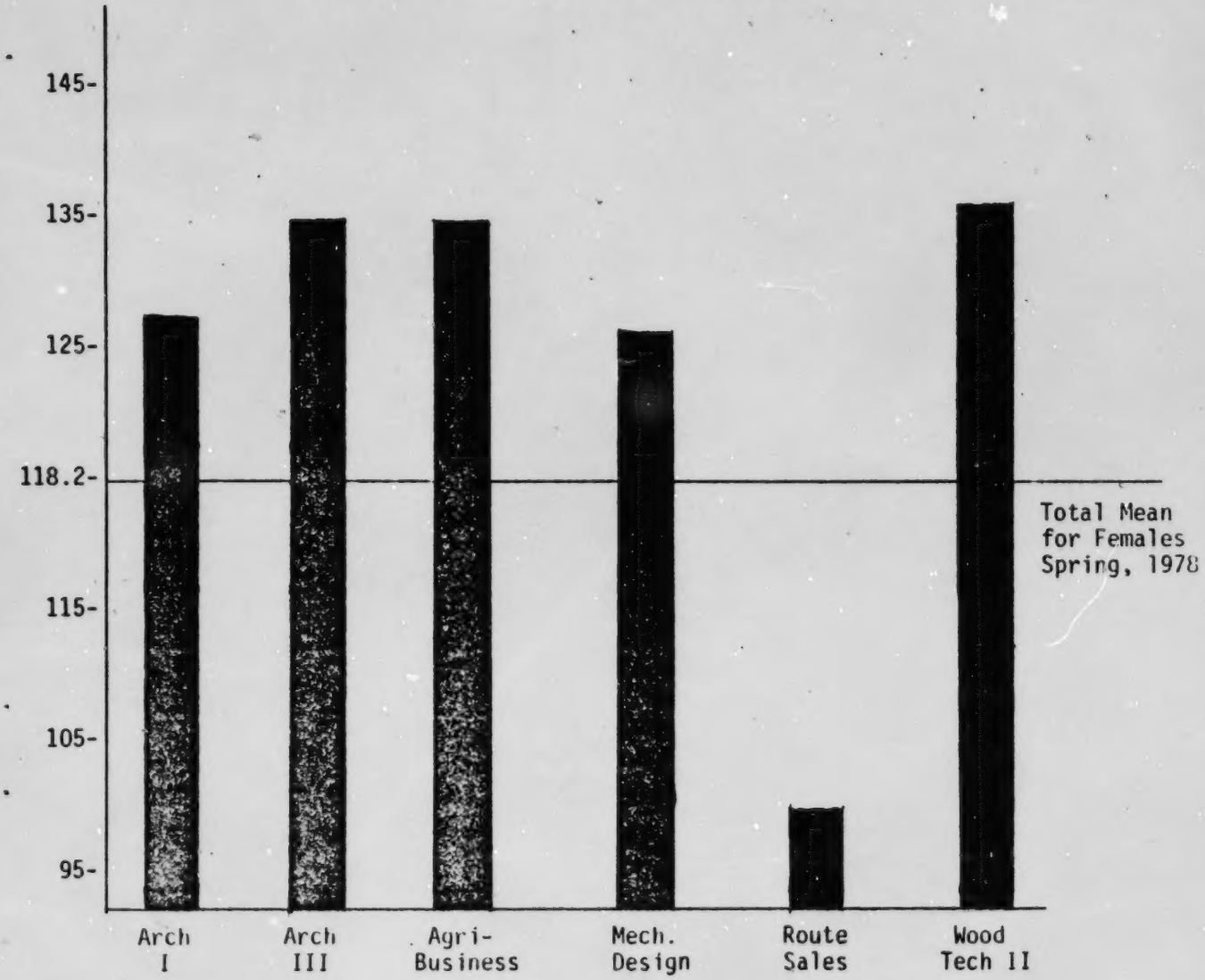


Figure III-1

Spring 1978

Male Means in Female Dominated Programs

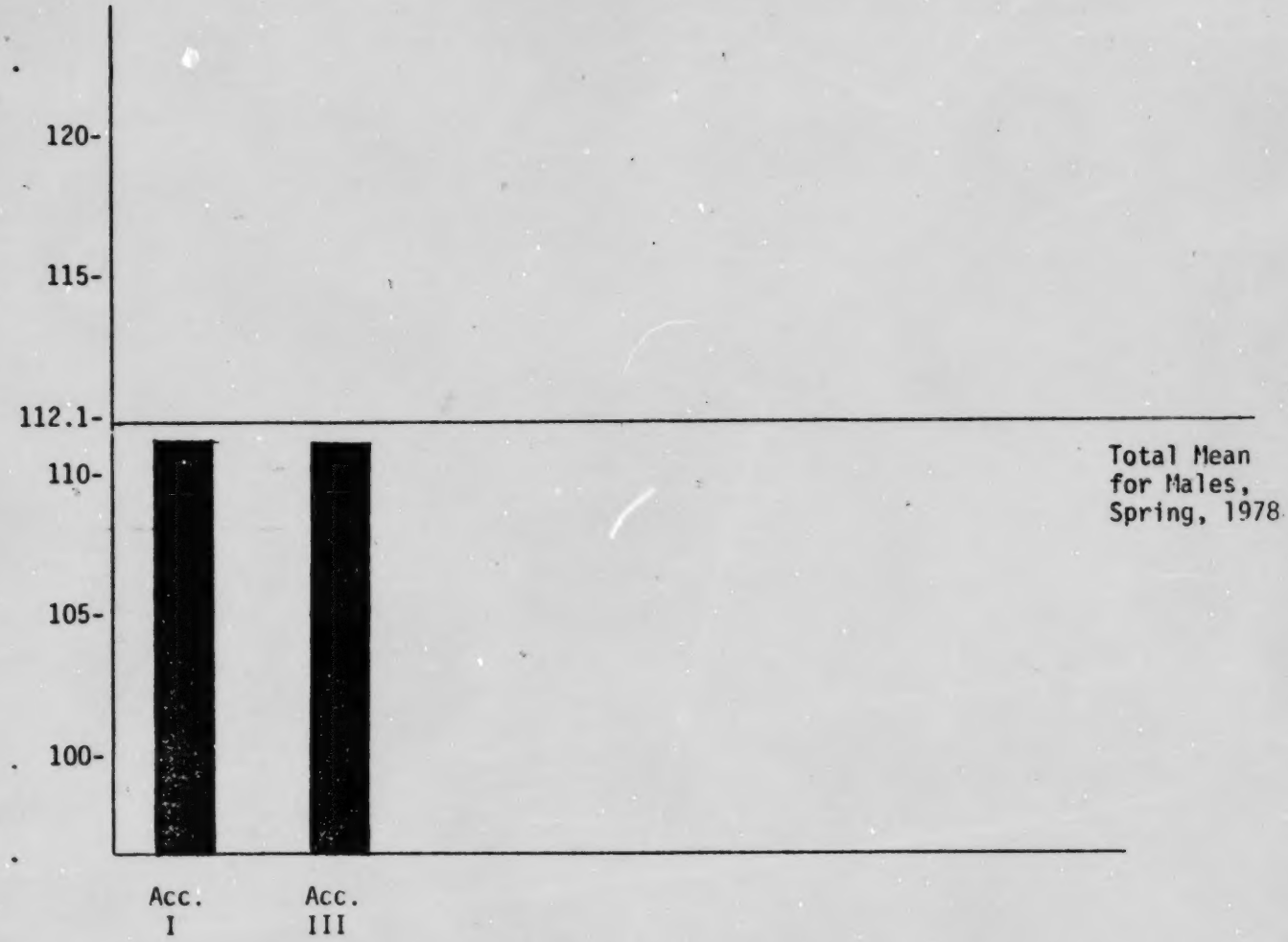


Figure III-2

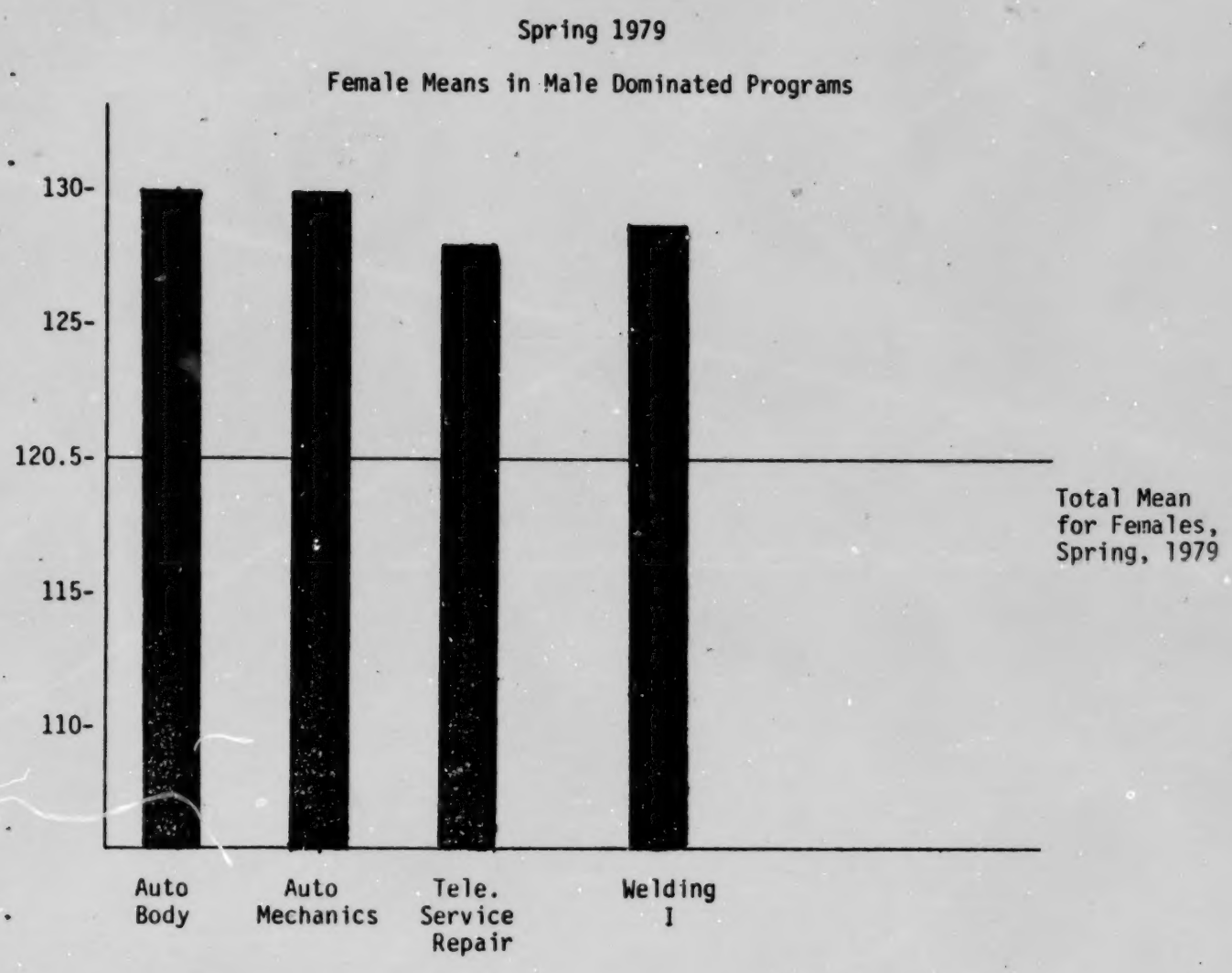

Spring 1979
Female Means in Male Dominated Programs
130-
125-
120.5-
115-
110-
Total Mean for Females, Spring, 1979
Auto Body
Auto Mechanics
Tele. Service Repair
Welding I

Figure III-3

Fall 1979

Female Means in Male Dominated Programs

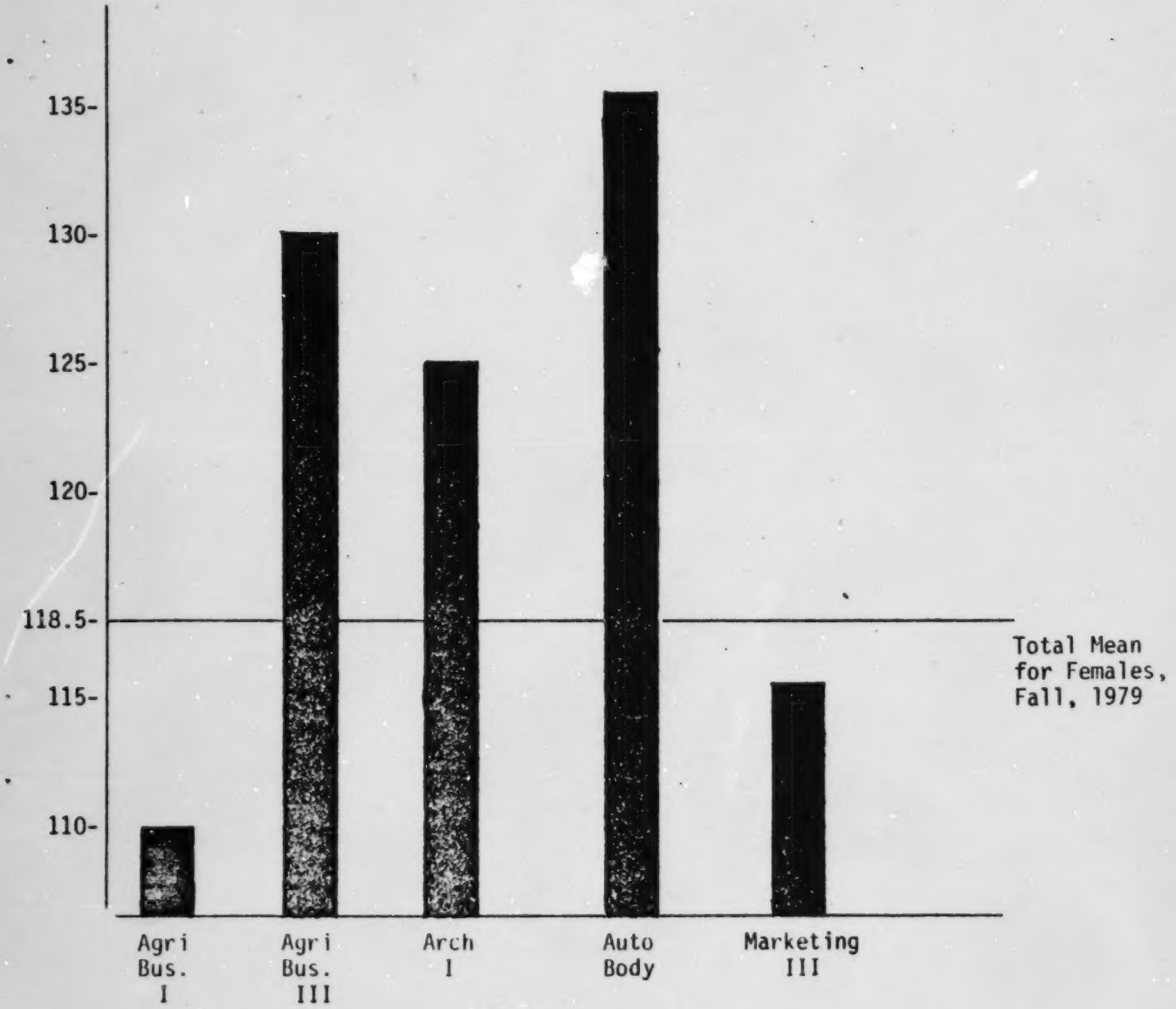


Figure III-4.

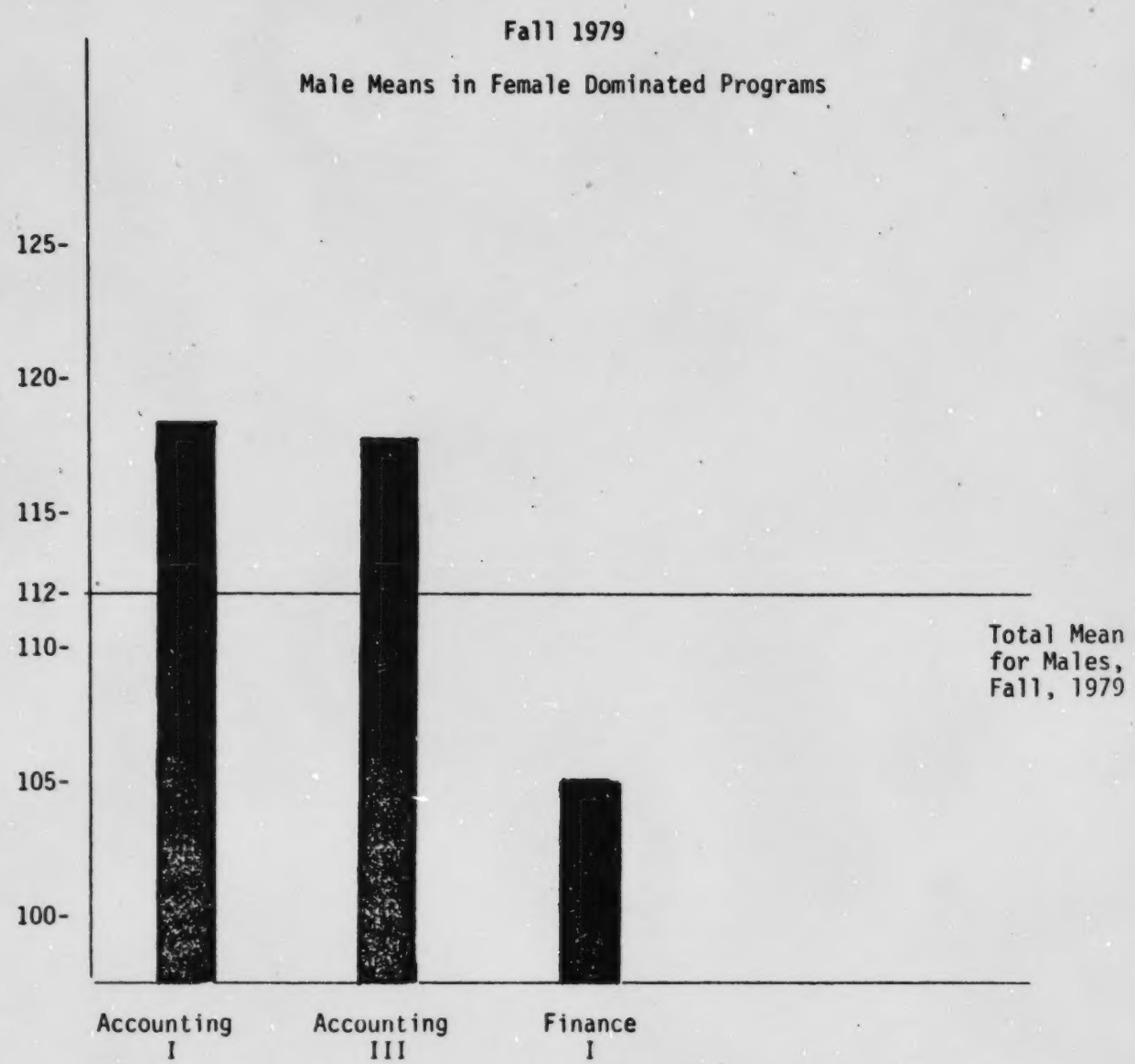

Fall 1979
Male Means in Female Dominated Programs
125-
120-
115-
112-
110-
105-
100-
Total Mean for Males, Fall, 1979
Accounting I
Accounting III
Finance I

Figure III-5

Spring 1980

Female Means in Male Dominated Programs

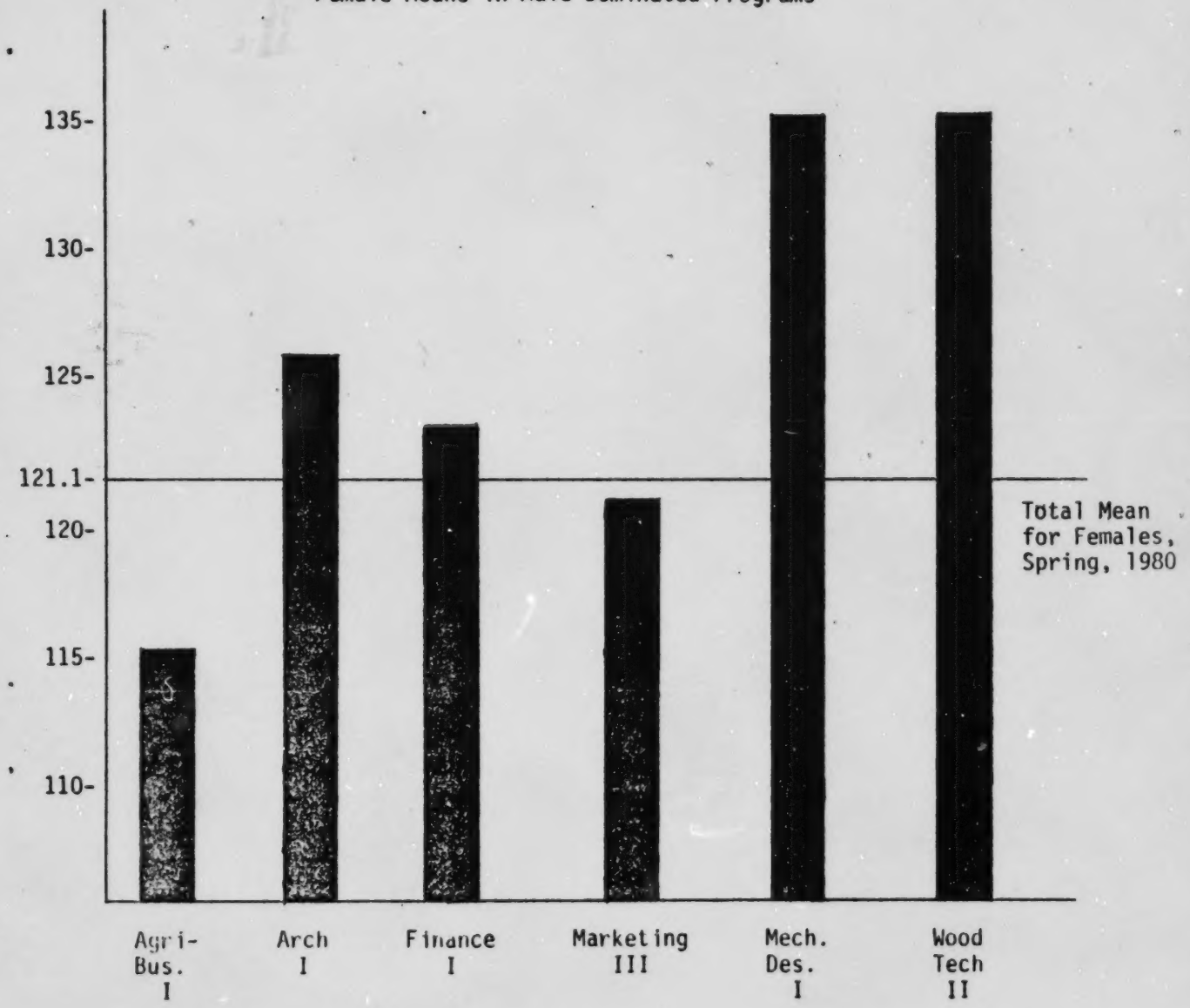


Figure III-6

Spring 1980

Male Means in Female Dominated Programs

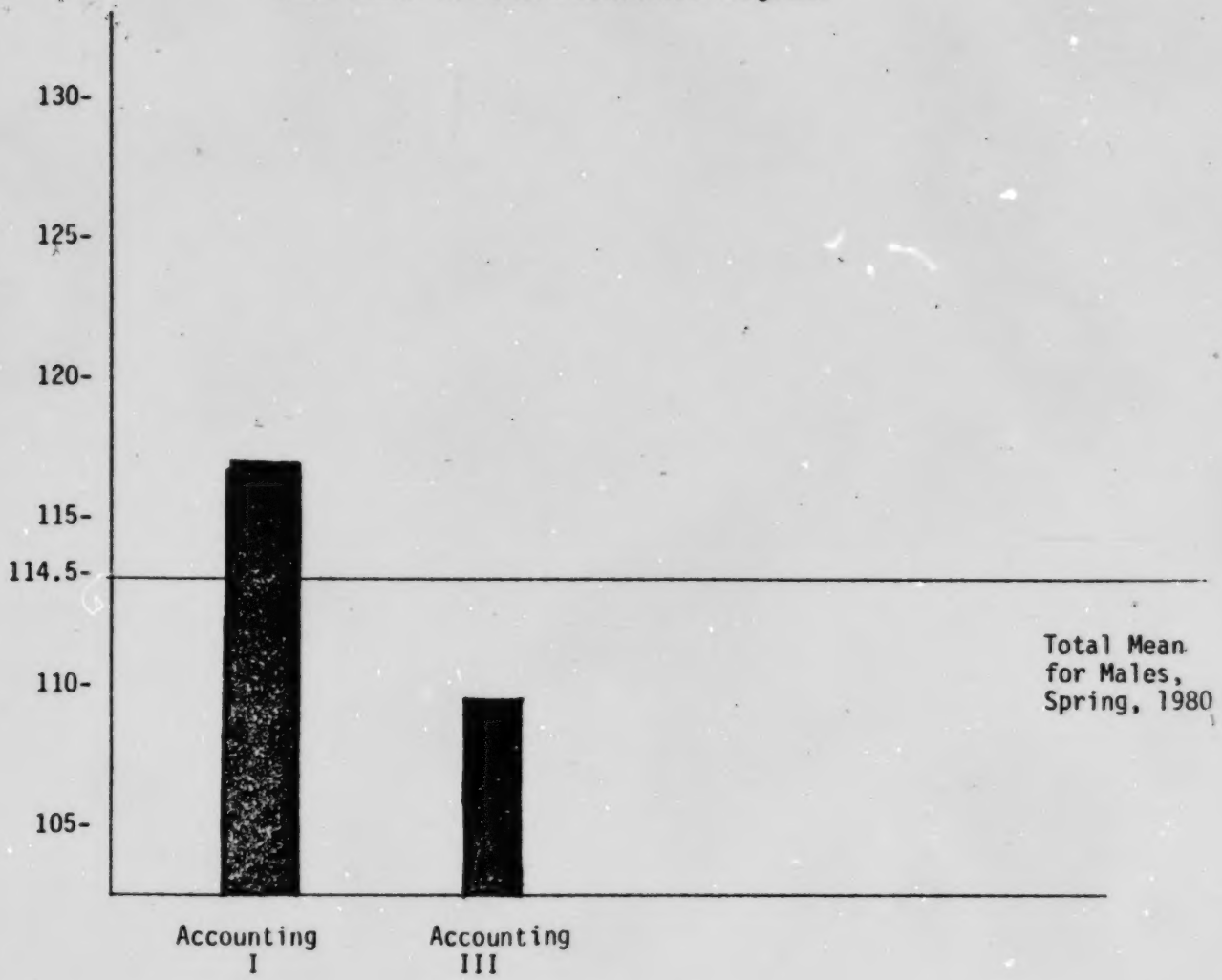


Figure III-7

d. Objective 3: Establish a baseline of data on the sex role stereotypes and biases of students at WITI - Rice Lake:

As seen from the data (Figure III-8 through Figure III-11) many students enrolled in regular vocational education programs at the VTAE district WITI - Rice Lake, exhibit a traditional bias. (Scores below 120.)

In Spring 1978 (Figure III-8), the total program means for students in five of 23 programs exhibited an unbiased attitude toward sex roles, the students in the remaining 17 programs exhibited a traditional bias. In Fall 1979 (Figure III-9) the total program means for students in only one of 21 programs surveyed displayed an unbiased attitude toward sex role stereotyping, the remaining 20 programs revealed a traditional bias. Figure III-10 reveals that in Spring 1979, the total program means for students in two of 13 programs exhibited an unbiased attitude and lack of sex role stereotyping. The remaining 11 programs revealed a traditional bias. In Spring 1980 (Figure III-11), the total program means for students in four of 25 programs exhibited an unbiased attitude toward sex roles, the total program means for students in the remaining 21 programs revealed a traditional bias. Many of the program total means were close to unbiased scores, but still fell within the range characterized by a traditional attitude or bias toward sex roles.

Generally the female scores were more unbiased than were the male scores. A majority of the program means for females indicated that the females had less sex role stereotypic attitudes than did the males. The data also revealed that most females in nontraditional programs had considerably higher scores (more unbiased attitudes) than did those in traditional programs. For example in Arch III, Spring 1978, the only female in the program at that time scored considerably higher than did her male colleagues. The female's score was 134,

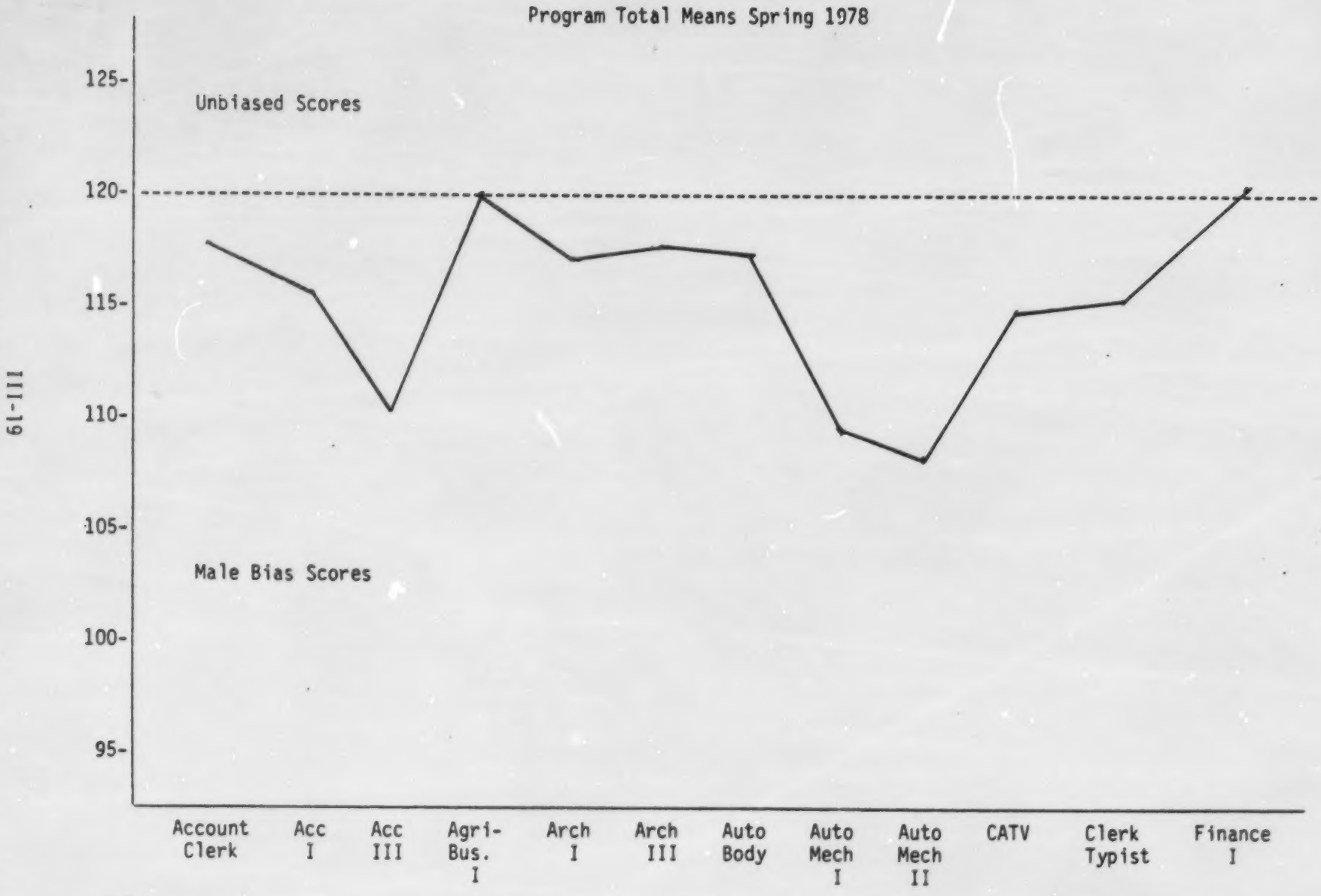
compared to the male mean which was 115. The same is true with the Auto Body program in Fall 1979, and Welding program in Spring 1980. Nontraditional students held the most unbiased attitudes toward sex role stereotyping.

Other females in traditional programs such as Secretarial Science and Clerk Typist held an unbiased attitude toward sex role stereotyping. Compared to other males in traditional programs, the females in traditional programs had considerably higher scores; thus holding an unbiased attitude toward sex role stereotyping. Overall, females in most programs exhibited a more unbiased view of sex roles' in the world of work.

Some males in traditional programs had low scores, which revealed a traditional bias. For example, the Route Sales program is often seen as a stereotypic occupation, and in Spring 1978 and Fall 1979, the scores of many males in traditional programs are lower than those of males in non-stereotypic programs. This could mean that some males in traditionally male programs hold a rigid perception of sex roles in jobs.

Many of the mixed sex programs (programs with fairly equal proportion of females and males) had more similar means between females and males than did female or male dominated programs. For example, the females' and males' means in the Accounting program were close compared to a male dominated program such as Architecture.

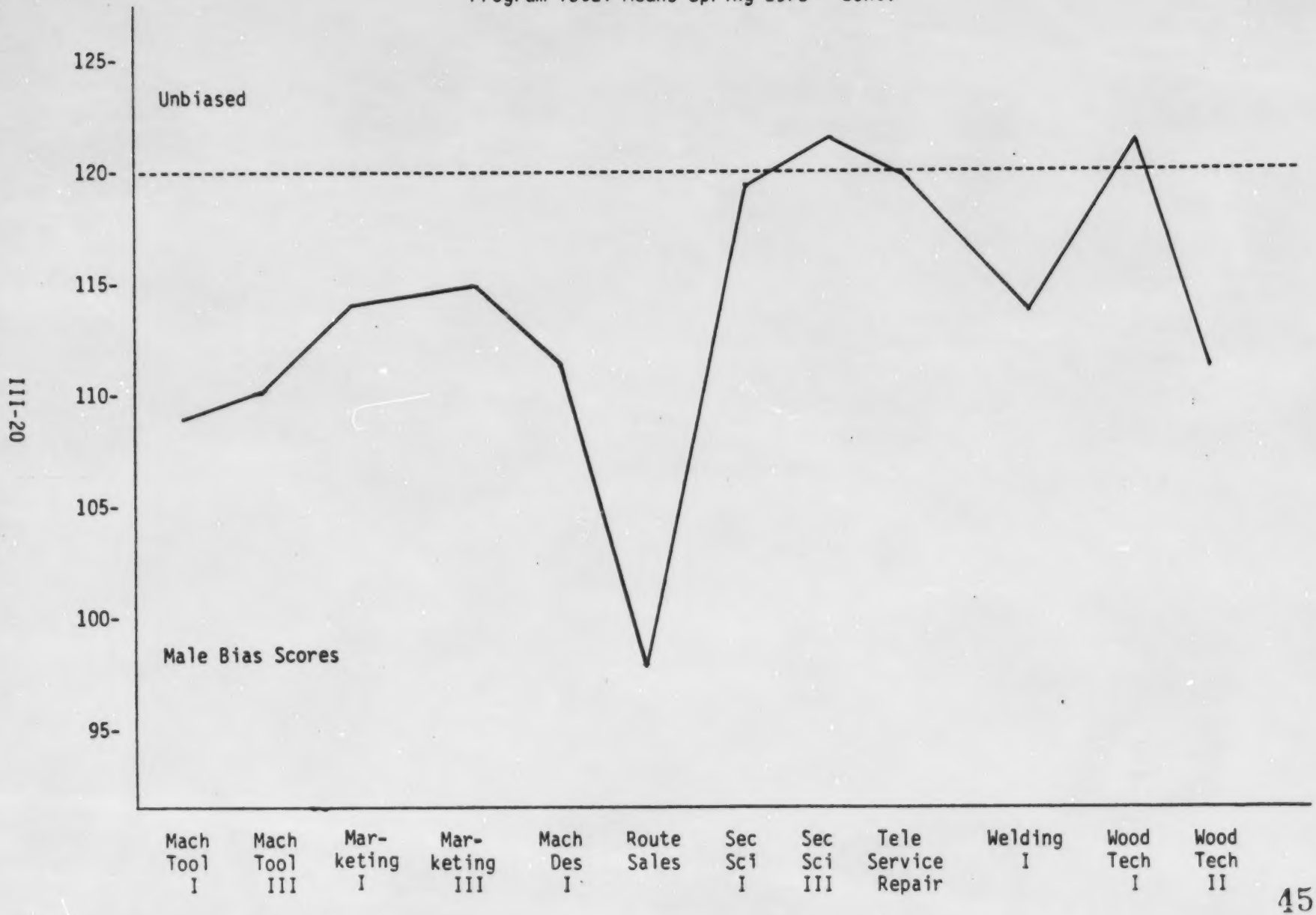
Overall, the scores show a traditional bias in the majority of programs at WITI - Rice Lake. No program score for females or males was below 97 or above 125.

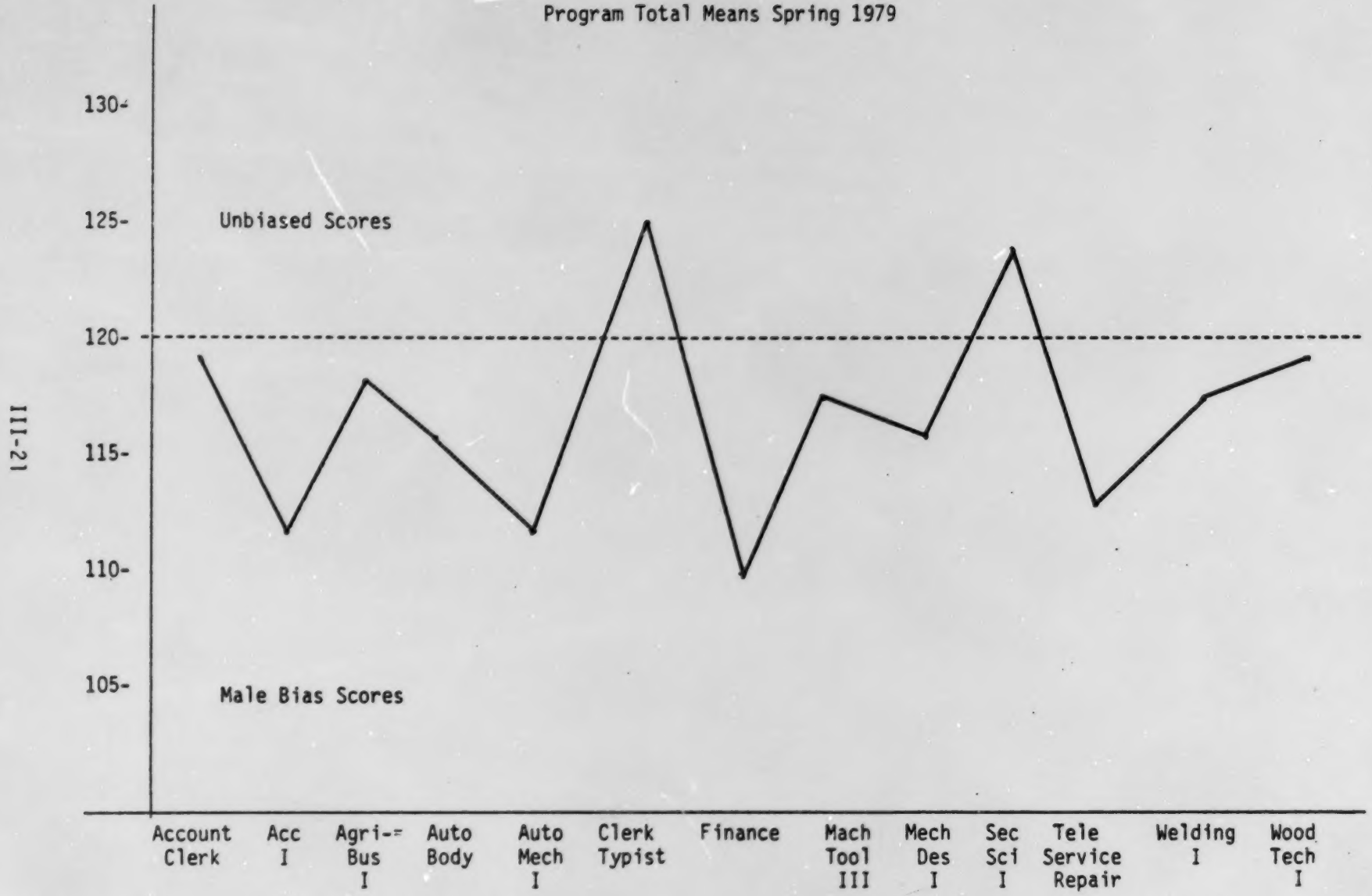


III-19

Figure III-8

Program Total Means Spring 1978 - cont.





III-21

Figure III-9

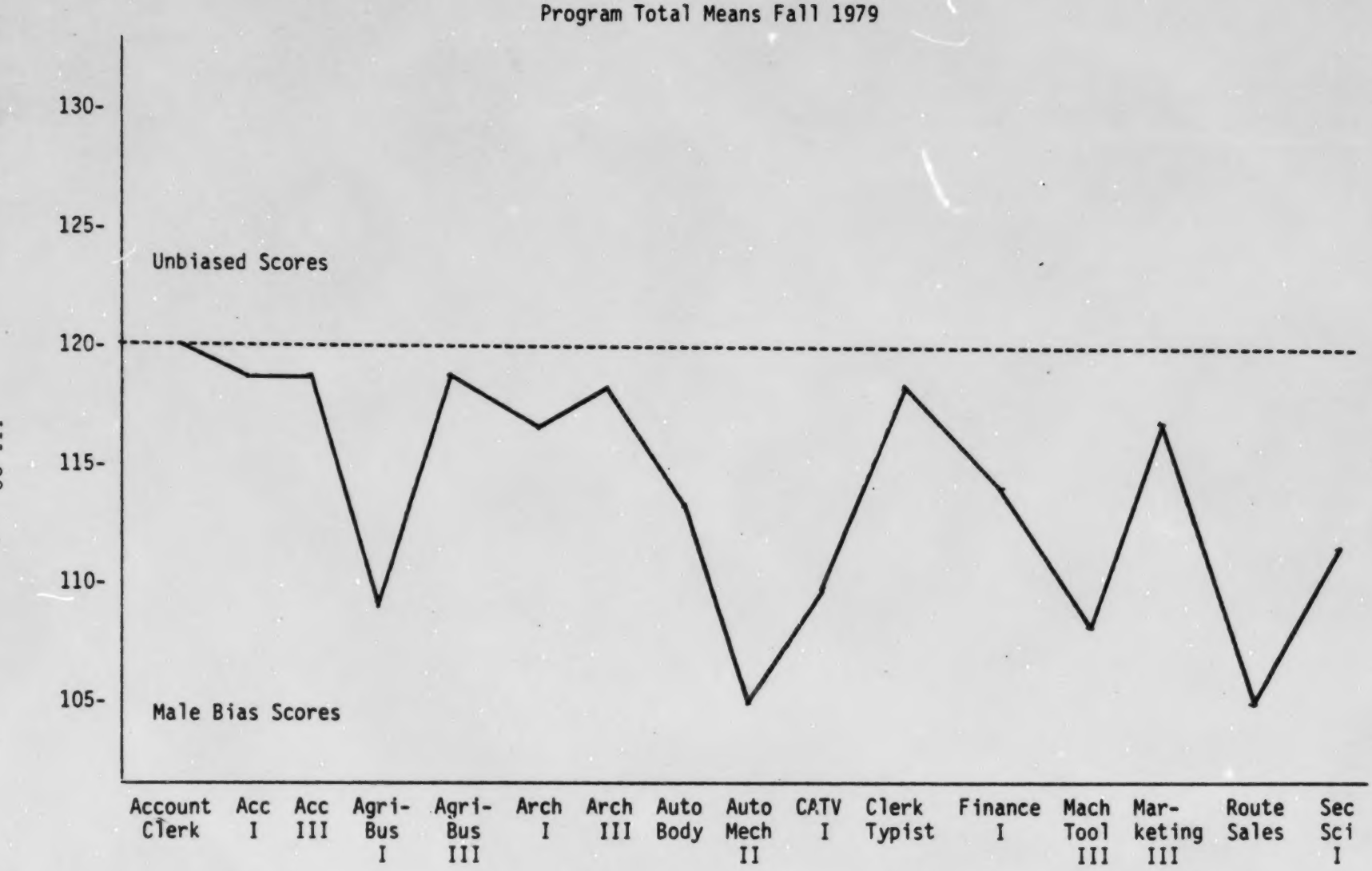
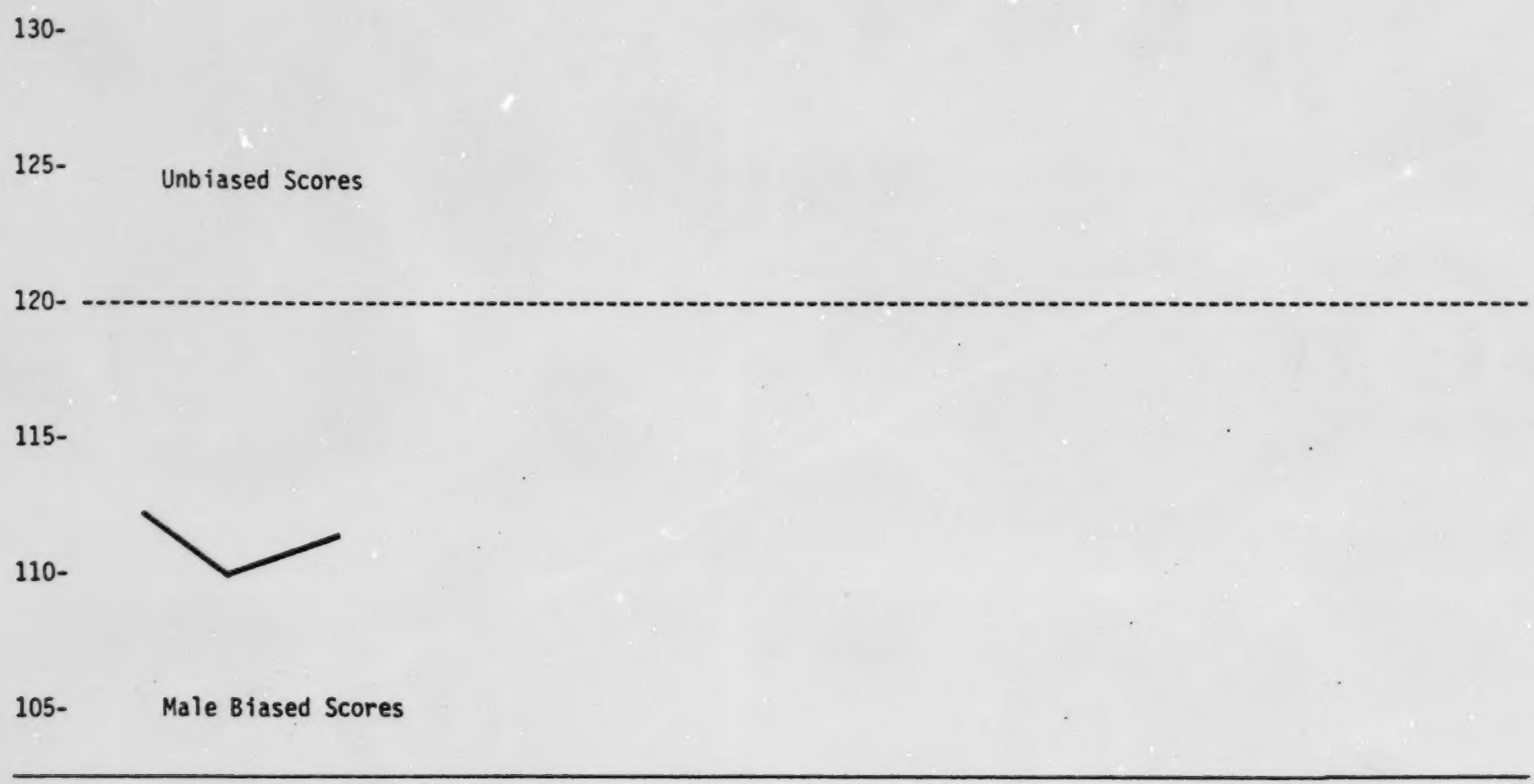


Figure III-10

Program Total Means Fall 1979 - cont.



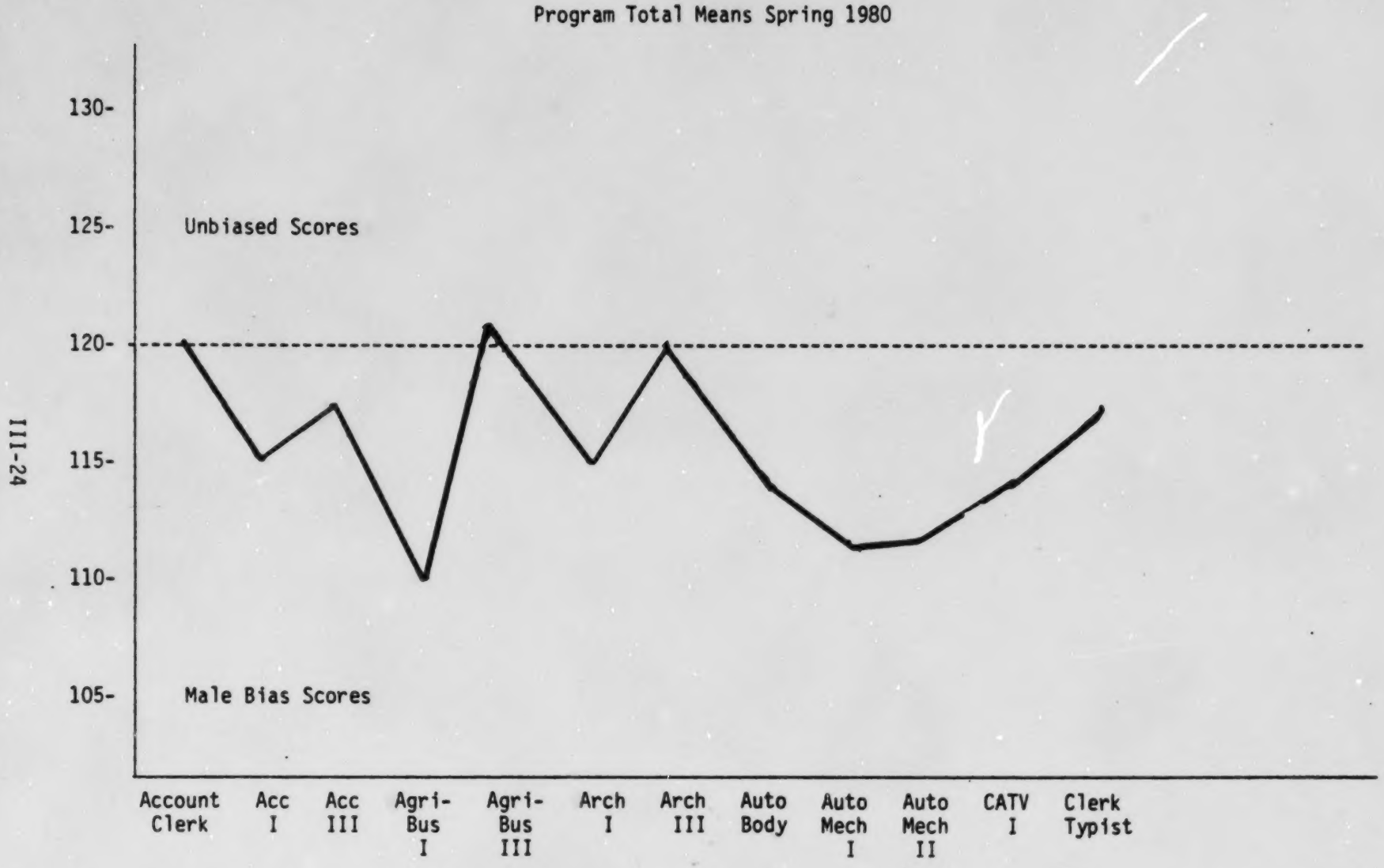
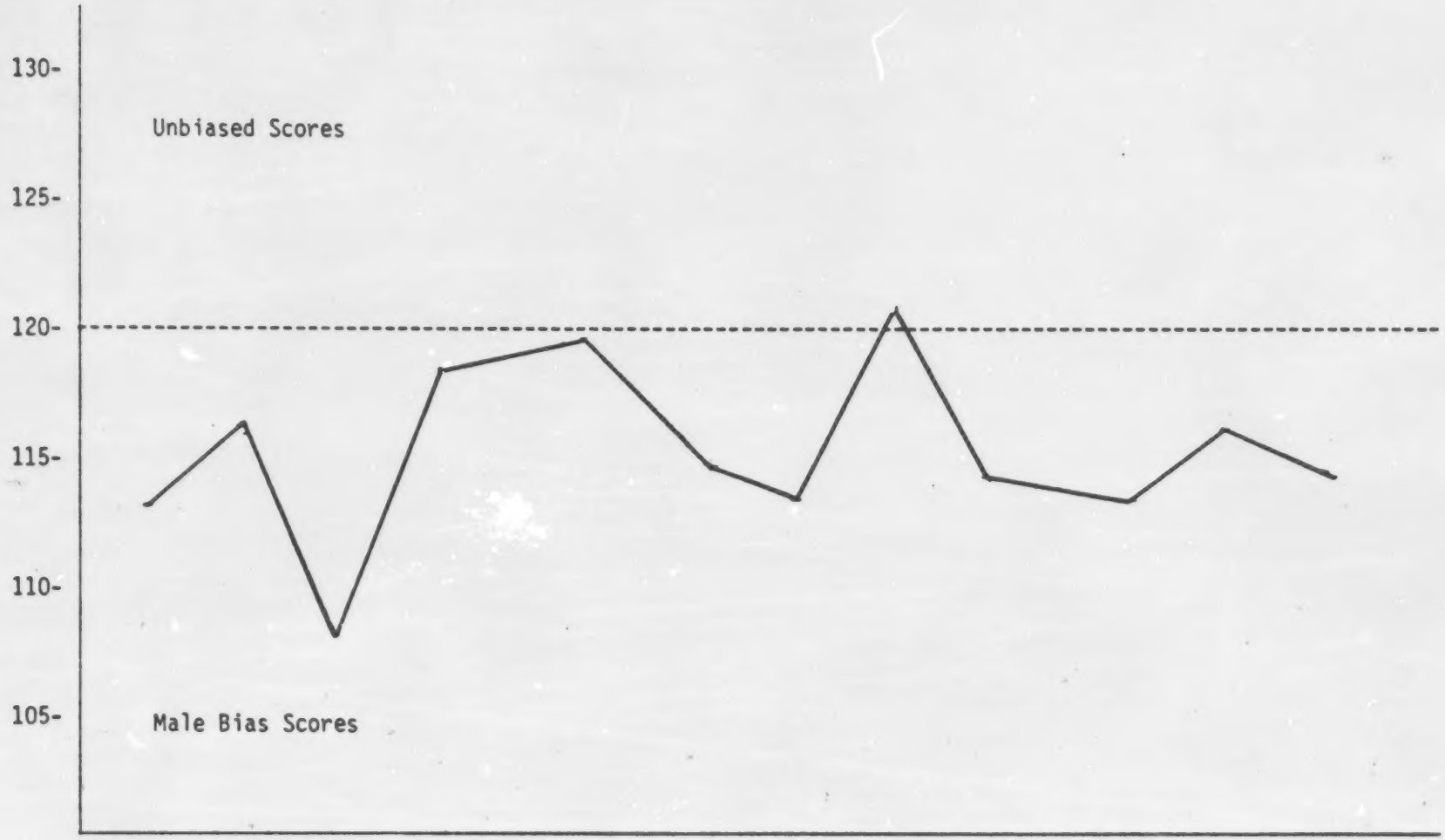


Figure III-11

Program Total Means Spring 1980 - cont.



III-25

e. Objective 4: Refine the sex role stereotyping/bias instrument.

After reviewing the instrument (Youth Employment Questionnaire - Form 762), it is suggested that some items be deleted or examined more closely. The following items were consistently found to have zero or negative discrimination:

Ability to:

1. Organize
4. Communicate effectively
6. Do the same task over and over
8. Work with numbers
11. Work with people
16. Accept responsibility
20. Learn skills quickly
21. Solve problems

Occupations:

28. Dental Technician
32. Cook
37. Newsreporter
40. Teacher
42. Writer

Data from Accounting, Account Clerk, Agri-Business, Auto Mechanics, Clerk Typist, Farm Operations, and Finance programs had more zero or negative discrimination items as compared with those in other programs. Some of these programs were female dominated, some male dominated and some had a fairly equal amount of both females and males. Hence, there appeared no specific relationship between the type of program and the level of discrimination and these items.

In conclusion, upon examination of the instrument, it is suggested that the items listed above be deleted or more closely examined in order to refine the Youth Employment Questionnaire (Form 762).

f. Objective 5: Determine the usefulness of the micro- and macro- level data from the sex role stereotyping/bias instrument in curriculum and instructional decisions.

As seen from the data (Table III-1), a majority of students enrolled in programs at WITI - Rice Lake held a traditional bias toward sex roles in the work world. Only in the female dominated programs were the program total means in the unbiased range.

At this point it may be useful to keep in mind that this is only the researcher's perspective and interpretation operating. From discussions with Dr. Theis and data analysis, it appears that a traditional sex bias exists at WITI - Rice Lake. Because of the bias operating, it may be helpful to raise students' awareness of sex role stereotyping and sex bias. This could be exceptionally interesting in programs with nontraditional students. Discussions between students in traditional programs and those in non-traditional programs may prove to be enlightening as well as stimulating. If instructors encourage their students to engage in discussions about sex stereotyping and sex roles, the students may be more willing to express themselves. In addition, recruitment of nontraditional students may desensitize those students who hold strong sex stereotypic attitudes. The traditional students may become more open to society's changing sex roles.

In summary, from the data collected from Spring 1978 to Spring 1980, it was concluded that a majority of students enrolled at WITI - Rice Lake held a traditional sex bias. Because this can be an important issue in education today, it may be helpful for the traditional students to be exposed to and have more direct involvement with nontraditional students. In this way, both traditional and nontraditional students have the opportunity to learn and grow from each other.

Based on a review of the results with Dr. Theis and his response to the results, it appeared that the data from the instrument would be useful in making decisions.

Summary

It appears from the findings of this study that a majority of students enrolled in WITI - Rice Lake held traditional attitudes toward women's and men's roles in the world of work. In addition, most students were enrolled in sex stereotypic programs, but more females than males were in non-traditional programs. Those nontraditional female students had higher scores (held the most unbiased attitude toward sex roles) than any other classification of students surveyed. In comparison to other students' scores, the nontraditional female students scored exceptionally high on the Youth Employment Questionnaire (Form 762). Even females who were enrolled in traditional programs had higher mean scores than males in traditional programs. Many males in traditional programs scored low on the questionnaire, indicating that some of these males held rigid, traditional views of sex stereotypes and careers. Among the students surveyed, it appears the traditional male students held the most traditionally biased attitude toward sex roles. Neither males nor females attitudes changed significantly as a result of having nontraditional students enrolled in a program, which revealed that regular vocational education programs had little if any impact on changing students perceptions of sex roles.

The results of this study indicate that most program total means did not change significantly over the three year period the study was conducted. Some programs means did rise consistently, from Spring 1978 to Spring 1980. These programs were Accounting III, Auto Mechanics II, Machine Tool I, Marketing I, Marketing III and Route Sales. At present, the reasons for the upward trend in these programs is unaccounted for. The instrument used in this study (the Youth Employment Questionnaire - Form 762) yielded high validity and reliability scores. Some minor revisions are recommended, but generally it appears to be a valid and useful instrument.

It appears that Shinar's speculation (cited in Krefting, 1978) concerning the differential perceptions of female and male abilities holds true for the students surveyed at WITI - Rice Lake. Many students enrolled there are in traditional programs; females in programs where stereotypical "female ability" is needed, males in programs where stereotypical "male ability" is needed. Thus, most students are in programs that are traditional and viewed by society as "appropriate" to their gender.

The literature cited suggests that sex role attitudes are developed early in a child's life and generally remain constant. It might be helpful to implement sex role stereotyping reduction programs in the elementary schools. In addition, it may prove useful to use sex fair curriculum materials.

Beach's implication (1977) that while much has been said about the negative consequences of sex bias and sex-role stereotyping, comparatively little has been accomplished to produce positive change also applies to this report. It appears that more positive action must be taken to reduce sex bias and sex role stereotyping at WITI - Rice Lake.

Chapter IV

Recommendations

The findings of this study suggest two specific areas to be addressed, namely the instrument (Youth Employment Questionnaire - Form 762), and vocational educators.

The Youth Employment Questionnaire - Form 762

1. Develop a more sex fair example in the instrument. (Item 0)
2. Include a question about one's perception of nontraditional students.
3. Revise the title to Employment Questionnaire

Vocational Educators

1. Assess vocational educators' attitudes on sex role stereotyping bias.
2. Use unbiased classroom materials and provide in-service training for staff members working with nontraditional students and measure the impacts of these changes.
3. Include in the public school system an early intervention program directed at eliminating or reducing sex role stereotypes.
4. Provide support and encouragement for nontraditional students.

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"Final Regulations for Public Law 94-482" Federal Register, Vol. 42, No. 191, Monday, October 3, 1977, Section 104.73.

Appendix A

Survey Instrument

Center for Vocational, Technical
and Adult Education
UW-Stout, Form 762.B1

Employment Questionnaire

Name _____

School _____ City _____ Date _____

Social Security Number (Optional) _____

Directions: Listed below are some characteristics of persons who work. If you feel a characteristic is mostly male, circle 1. If, in your opinion, it is more male than female, circle 2. If you feel it is equally male or female, circle 3. If you think it is more female than male, circle 4. If you think it is mostly female, circle 5.

Example: Watching football 1 (2) 3 4 5

CHARACTERISTICS	Male 1	More Male Than Female 2	Either Male or Female 3	More Female Than Male 4	Female 5
Ability to:					
1. Organize	1	2	3	4	5
2. Plan	1	2	3	4	5
3. Sell or convince	1	2	3	4	5
4. Communicate effectively	1	2	3	4	5
5. Work with hands	1	2	3	4	5
6. Do the same task over and over	1	2	3	4	5
7. Be willing to travel	1	2	3	4	5
8. Work with numbers.	1	2	3	4	5
9. Do clerical tasks.	1	2	3	4	5
10. Lift objects	1	2	3	4	5
11. Work with people	1	2	3	4	5
12. Do mechanical tasks	1	2	3	4	5
13. Do outside work.	1	2	3	4	5
14. Be aware of others' feelings	1	2	3	4	5
15. Be neat in habits	1	2	3	4	5
16. Accept responsibility.	1	2	3	4	5
17. Be good with children.	1	2	3	4	5
18. Take control of a situation.	1	2	3	4	5
19. Do work that gets hands dirty	1	2	3	4	5
20. Learn skills quickly	1	2	3	4	5
21. Solve problems	1	2	3	4	5
22. Be inventive	1	2	3	4	5

- over please -

Form 762.B2

Directions: Listed below are some occupations. If, in your opinion, the occupation is best suited to a male, circle 1. If you feel it is better suited to a male than a female, circle 2. If you see it as equally suited to male or female, circle 3. If you think it is better suited to a female than male, circle 4. If you feel it is best suited to a female, circle 5.

OCCUPATIONS	Male 1	More Male Than Female 2	Either Male or Female 3	More Female Than Male 4	Female 5
23. Factory worker	1	2	3	4	5
24. Military officer	1	2	3	4	5
25. Radio repair worker	1	2	3	4	5
26. Doctor	1	2	3	4	5
27. Teacher aide	1	2	3	4	5
28. Dental technician	1	2	3	4	5
29. Secretary	1	2	3	4	5
30. Business owner/operator	1	2	3	4	5
31. Lawyer	1	2	3	4	5
32. Cook	1	2	3	4	5
33. Scientist	1	2	3	4	5
34. Fire fighter	1	2	3	4	5
35. Nurse	1	2	3	4	5
36. Train engineer	1	2	3	4	5
37. News reporter	1	2	3	4	5
38. Veterinarian	1	2	3	4	5
39. Police officer	1	2	3	4	5
40. Teacher	1	2	3	4	5
41. Judge	1	2	3	4	5
42. Writer	1	2	3	4	5
43. Electrician	1	2	3	4	5
44. Landscaper	1	2	3	4	5
45. Senator	1	2	3	4	5
46. Custodian	1	2	3	4	5

47. I am: *(Please check)*

____ (1) Male

____ (2) Female

48. I am enrolled in:

____ (1) Vocational diploma program

____ (2) Associate degree program

____ (3) Other _____

- over please -

49. In what field area is your program?

____ (1) Agriculture
____ (2) Business and Office
____ (3) Marketing and Sales
____ (4) Health Occupations
____ (5) Home Economics
____ (6) Trade & Industry (auto mechanics, machinist, welding, drafting, graphic arts, etc.)
____ (7) Other _____

50. How old are you?

____ (1) 18 or younger
____ (2) 19-20
____ (3) 21-25
____ (4) 26-30
____ (5) 31-40
____ (6) 41-50
____ (7) 51-60
____ (8) 61 and older

51. Did you enroll in a vocational program in high school?

____ (1) Yes
____ (2) No

52. How much work experience have you had related to your vocational or technical program?

____ (1) None
____ (2) Less than one year
____ (3) 1-2 years
____ (4) 3-5 years
____ (5) More than 5 years

53. Which of the following statements best describes you?

____ (1) I am a female in a program which usually only enrolls men
____ (2) I am a female in a program which typically enrolls mostly females
____ (3) I am a female in a program which enrolls both men and women
____ (4) I am a male in a program which usually enrolls males
____ (5) I am a male in a program which usually enrolls both men and women
____ (6) I am a male in a program which usually enrolls only females

Appendix B

Programs Surveyed at WITI - Rice Lake

Spring 1978 to Spring 1980

Account Clerk
Accounting I
Accounting III
Agriculture Business I
Agriculture Business III
Architecture I
Architecture III
Auto Body
Auto Mechanics I
Auto Mechanics II
CATV I
Clerk Typist
Finance I
Machine Tool I
Machine Tool III
Marketing I
Marketing III
Mechanical Design I
Route Sales
Secretarial Science I
Secretarial Science III
Telephone Service Repair
Welding
Wood Technics I
Tood Technics II

Appendix C

Female Dominated Programs

Account Clerk

Accounting

Clerk Typist

Secretarial Science

Appendix D

Male Dominated Programs

Architecture

Auto Body

Auto Mechanics

CATV

Machine Tool

Mechanical Design

Route Sales

TV Service Repair

Welding

Wood Technics

Appendix E

Mixed Sex Programs

Marketing I

Marketing II